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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/595,068	06/15/00	TAIT	D 7125

028574
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TM02/1105

EXAMINER	
GREEN, M	
ART UNIT	**PAPER NUMBER**
2681	4

DATE MAILED: 11/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

HG

Office Action Summary	Application No. 09/595,068	Applicant(s) TAIT, DAVID S.	
	Examiner Miguel D. Green	Art Unit 2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/5/00* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 5, 12, 13, 15, 27, 28, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Sklar et al (US Pat. No. 5,760,819).

Regarding claim 1, Sklar et al teaches a system for automatically positioning an antenna comprising: a motor arranged to be coupled to the antenna (inherently); a controller (17) coupled to the motor (not shown), wherein the controller is arranged to control the motor in response to selection of a channel so as to automatically drive the antenna to a position at which the antenna is aimed at a source of a signal associated with the selected channel, and wherein the controller drives the motor to the position based upon a location of the signal source (satellite, 18) and a location of the antenna. Note Figs.1&2 and col.3 lines 32-49.

Regarding claims 5 and 12, Sklar et al further teaches the system wherein the location of the antenna is supplied by a global positioning sensor (Fig.2, item 16) with the locations in context inherently being global locations; note col.5 lines 9-12.

Regarding claim 13, Sklar et al teaches a controller as claimed in the instant application as an apparatus component of the system as discussed in re claim 1 above.

Regarding claims 15 and 27, Sklar et al teaches the controller as above further wherein the location of the antenna is supplied by a global positioning sensor (Fig.2, item 16) with the locations in context inherently being global locations; note col.5 lines 9-12.

Regarding claims 28 and 30, Sklar et al teaches a method as claimed in the instant application, inherent to the system and apparatus discussed above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 6, 11, 16, 26, 31 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sklar et al as applied to claims 1, 13, and 28 respectively above.

Regarding claims 6, 16, and 31, Sklar et al teaches the antenna positioning system, apparatus and method as above, wherein location is determined by a global positioning sensor which the controller consequently responds to in driving the antenna motor. Sklar et al fails to teach location determined by a compass. However, the examiner takes Official Notice of the equivalence of GPS as a location determination means, and the selection of either of this means or a compass to control the antenna position based on location would be within the level of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time

of the invention to use a compass instead of GPS, since this represents greater simplicity and desirable cost savings over a GPS.

Regarding claims 1, 26, and 36, Sklar et al teaches the antenna positioning system, apparatus and method as above, wherein only one antenna is taught. However, it has been held that mere duplication of parts involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. It would have been obvious to one of ordinary skill in the art at the time of the invention for the antenna comprise first and second antennas, for the purpose of diversity that reduces potential interference and increases the likelihood of receiving a desired signal and quality over a broader range.

3. Claims 2-4, 14, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sklar et al as applied to claims 1, 13 and 28 respectively above, and further in view of Ma et al (US Pat. No. 4,801,940).

Regarding claims 2, 14 and 29, Sklar et al teaches the inclusion of memory (col.5 lines 26-28) into an automatic antenna positioning system, apparatus (i.e., controller) and method as in re claims 1, 13 and 28, respectively, but fails to teach the specific use of such memory. However, Ma et al teaches a satellite seeking system for antennas, wherein a controller stores the location of the signal source in memory (note Fig.9, item 414). It would have been obvious to one of ordinary skill in the art at the time of the invention for Sklar et al to use the memory in the manner as taught by Ma et al, for the purpose of optimizing the process of seeking a satellite signal and automatically positioning the antenna accordingly.

Regarding claim 3, the combination of Ma et al and Sklar et al teaches a global position sensor (as in Sklar et al, Fig.2 item 16) for location determination.

Regarding claim 4, the combination of Ma et al and Sklar et al teaches the system wherein the controller stores the location of the antenna in memory (note Ma et al, Fig.7 item 451).

Regarding claims 7, 8, 10, 17-24, and 32-34, Ma et al and Sklar et al represent a combination as argued above. Ma et al further teaches the system, apparatus and method wherein the controller stores the present location (Fig.7 item 451) and noise figure (Fig.7 item 452) then seeks optimal signal reception of the selected channel (note col.7 line 60 – col.8 line 3 and col.8 lines 38-60), thereby suggesting that a known offending source location is stored but reception from which is to be subsequently reduced and reception blocked by the controller based upon movement to an optimal reception location. Furthermore, it is inherent that ghosts will be cancelled as an anomaly of poor signal reception. As further taught by Ma et al, optimal signal reception (including ghost cancellation) is achieved dependent upon geographical topography that is stored in the memory (i.e., currently available computer charts) of the controller (note col.7 lines 8-30).

4. Claims 9, 25 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sklar et al as applied to claims 1, 13, and 28 respectively above, and further in view of Taira et al (US Pat. No. 4,047,175).

Regarding claims 9, 25 and 35, Sklar et al teaches the system, apparatus and method as above, including in an antenna interface unit (12) a servo controller (Fig.2 item 22) and servo

power amplifier (Fig.2 item 23) that generates signals to drive the antenna motor and consequent positioning, said amplifier electrically coupled between the antenna and a receiver tuned to the selected channel (note Fig.1). Sklar does not disclose the servo amplifier as a variable gain amplifier whose gain is controlled according to signal location by the controller. However, Taira et al teaches an automatic antenna positioning comprising a servo amplifier (Fig.6 item 125) that is a variable gain amplifier controlled by controller (Fig.6 item 44) according to signal location (note col.12 line 42 – col.13 line 22). It would have been obvious to one of ordinary skill in the art at the time of the invention for the servo amplifier taught in Sklar et al to be a variable gain servo amplifier as taught by Taira et al, for the purpose of adjusting the antenna positioning in step with variable amplifier gain which provides greater control.

Prior Art of Record

The following is prior art made of record and not relied upon but considered pertinent to applicant's disclosure:

Sakurai et al (US Pat. No. 4,796,032) teaches a satellite broadcasting system with antenna controlling unit and position actuation means.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miguel D. Green whose telephone number is 703-308-6729. The examiner can normally be reached on Mon-Fri (9am - 5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on 703-305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After-Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service personnel whose telephone number is 703-306-0377.

MDG
October 29, 2001

DWAYNE BOST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600